

90176



901760



NEW ZEALAND QUALIFICATIONS AUTHORITY
MANA TOHU MĀTAURANGA O AOTEAROA

For Supervisor's use only

Level 1 Human Biology, 2008

90176 Describe how humans respond to pathogens

Credits: Two

2.00 pm Wednesday 19 November 2008

Check that the National Student Number (NSN) on your admission slip is the same as the number at the top of this page.

You should answer ALL the questions in this booklet.

If you need more space for any answer, use the page(s) provided at the back of this booklet and clearly number the question.

Check that this booklet has pages 2–6 in the correct order and that none of these pages is blank.

YOU MUST HAND THIS BOOKLET TO THE SUPERVISOR AT THE END OF THE EXAMINATION.

| For Assessor's use only | | Achievement Criteria | | |
|---|--------------------------|--|--------------------------|---|
| Achievement | | Achievement with Merit | | Achievement with Excellence |
| Describe how humans respond to pathogens. | <input type="checkbox"/> | Explain how humans respond to pathogens. | <input type="checkbox"/> | Discuss how humans respond to pathogens. <input type="checkbox"/> |
| Overall Level of Performance | | | | <input type="checkbox"/> |

You are advised to spend 30 minutes answering the questions in this booklet.

Assessor's
use only

Chickenpox is a highly infectious disease that mainly affects children. It is caused by a virus that may spread quickly from sneezing and coughing.

- (a) (i) Describe ONE way the chickenpox virus can **enter** a human body.

- (ii) Describe ONE way the body reacts to **prevent** this method of entry given in (a) (i).

- (b) Chickenpox may cause cold-like symptoms and a moderate fever, followed by an itchy pimple-like rash.

Describe one way a “moderate fever” helps the body to fight the chickenpox virus.

- (c) **Scratching** the itchy skin can cause an inflammatory response.

- (i) Describe THREE **symptoms** of an inflammatory response (not itchy skin).

(1)

(2)

(3)

- Discuss how an inflammatory response tries to stop these pathogens spreading within the body.

[illegible]

- (d) Explain how a vaccine works to prevent a person from getting a disease such as chickenpox.

- (e) The chickenpox virus can remain in an inactive state in the body for many years. When an adult's immune system becomes weakened, this chickenpox virus may become active again, causing a disease called shingles.

Explain how the weakened immune system allows the virus to act as a pathogen again to cause shingles.

Your answer should explain the role of **antibodies** and **memory cells**.

Discuss the role of blood to stop more bacteria entering the body AND to fight the bacteria that have entered the body.

- phagocytes
- lymphocytes
- platelets.

[illegible]

**Extra paper for continuation of answers if required.
Clearly number the question.**

Assessor's
use only

Question
number

[illegible]